

Work Order ID: 93417

\*93417\*

Page 1

November-19-12 10:05:52 AM

Item ID: D3535-11

Accept

\*N900040100\*

Setup Start \*NS1\*

Revision ID:

Stop \*NS2\*

Item Name: Wearshoe

Start Date: 11/15/12 Start Qty: 6.00

\*6\*

Cust Item ID:

Required Date: 11/30/12 Req'd Qty: 6.00

\*6\*

Customer:

Reference:

Approvals: Process Plan: MJS Date: 12-11-20

Tooling: Date:

Run Start \*NR1\*

QC: Date: SPC (Y/N): Date:

Stop \*NR2\*

| Sequence ID/<br>Work Center ID | Operation<br>Description | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|

| Draw Nbr | Revision Nbr |
|----------|--------------|
| D3535    | Rev B        |

100

0.00

\*100\*

FLOW WATER JET

Waterjet

Memo

0.00

FLOW CNC Waterjet

1-Cut as per Dwg D3535 Dwg Rev: B Prog Rev: B 2-  
Deburr if necessary

384 OUG

110

QC2- Inspect parts off machine FAI/FAIB

0.00

\*110\*

QC

Memo

0.00

Quality Control

120

QC8- Inspect parts - second check

0.00

\*120\*

QC

Memo

0.00

Quality Control

DAS  
15  
9-89  
12/1/2391 2  
PTO

NCR: ☒ Yes ☐ No

## WORK ORDER NON-CONFORMANCE / UPDATE

DQA: 12/12/13 Date: 12/12/13QA Closed: CK Date: 11

|   |  |  |   |                                    |   |                                      |                                    |                                    |  |   |  |                                    |  |                                |                                    |                                    |                                   |  |
|---|--|--|---|------------------------------------|---|--------------------------------------|------------------------------------|------------------------------------|--|---|--|------------------------------------|--|--------------------------------|------------------------------------|------------------------------------|-----------------------------------|--|
| Work Order: <u>93417</u><br>Part No. <u>D3535-11</u><br>NCR No. <u>12-230</u> | <b>DISPOSITION</b><br>Rework <input type="checkbox"/><br>Scrap <input checked="" type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Work Order Update <input type="checkbox"/> | <b>AGAINST DEPARTMENT/PROCESS</b><br><table style="width:100%; font-size: small;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input checked="" type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input checked="" type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table> | Skid-tube <input type="checkbox"/>          | Crosstube <input type="checkbox"/> | Water Jet <input checked="" type="checkbox"/> | Engineering <input type="checkbox"/> | Machining <input type="checkbox"/> | Small Fab <input type="checkbox"/> | Prod. Eng. Coord. <input type="checkbox"/> | Quality <input checked="" type="checkbox"/> | Thermoforming <input type="checkbox"/> | Finishing <input type="checkbox"/> | Rec/Store/Packaging <input type="checkbox"/> | Other <input type="checkbox"/> | Large Fab <input type="checkbox"/> | Composite <input type="checkbox"/> | Supplier <input type="checkbox"/> |  |
| Skid-tube <input type="checkbox"/>  | Crosstube <input type="checkbox"/>   | Water Jet <input checked="" type="checkbox"/>  | Engineering <input type="checkbox"/>        |                                    |   |                                      |                                    |                                    |  |   |  |                                    |  |                                |                                    |                                    |                                   |  |
| Machining <input type="checkbox"/>  | Small Fab <input type="checkbox"/>   | Prod. Eng. Coord. <input type="checkbox"/>   | Quality <input checked="" type="checkbox"/> |                                    |   |                                      |                                    |                                    |  |   |  |                                    |  |                                |                                    |                                    |                                   |  |
| Thermoforming <input type="checkbox"/>  | Finishing <input type="checkbox"/>   | Rec/Store/Packaging <input type="checkbox"/>   | Other <input type="checkbox"/>              |                                    |   |                                      |                                    |                                    |  |   |  |                                    |  |                                |                                    |                                    |                                   |  |
| Large Fab <input type="checkbox"/>  | Composite <input type="checkbox"/>   | Supplier <input type="checkbox"/>  |   |                                    |   |                                      |                                    |                                    |  |   |  |                                    |  |                                |                                    |                                    |                                   |  |

| Root Cause                                   | Date  | Step | Qty | Description of work order update or Non-conformance  | Initial Chief Eng                   | Action Description                        | Sign & Date | Verification | QC Inspector                        |
|--|-------|------|-----|--|-------------------------------------|---|-------------|--------------|-------------------------------------|
| Doc/Data <input type="checkbox"/>            | 12/11 | #    | 2   | Qty 1 Found after Bending that had pericing lines from the water jet on different Areas of the workplate | DAS 16<br>8-8<br>ASZ042<br>12/12/10 | Screen + Destroy.<br>Qty 2<br>No Replace. | 12-12-11    | 12/12/11     | DAS 16<br>8-8<br>ASZ042<br>12/12/10 |
| Equip/Tooling <input type="checkbox"/>       |       |      |     |  |                                     |   |             |              |                                     |
| Operator <input checked="" type="checkbox"/> |       |      |     |  |                                     |   |             |              |                                     |
| Material <input type="checkbox"/>            |       |      |     |  |                                     |   |             |              |                                     |
| Setup <input type="checkbox"/>               |       |      |     |  |                                     |   |             |              |                                     |
| Other <input type="checkbox"/>               |       |      |     |  |                                     |   |             |              |                                     |
| Process <input type="checkbox"/>             |       |      |     |  |                                     |   |             |              |                                     |
| Supplier <input type="checkbox"/>            |       |      |     |  |                                     |   |             |              |                                     |
| Training <input type="checkbox"/>            |       |      |     |  |                                     |   |             |              |                                     |
| Unapproved <input type="checkbox"/>          |       |      |     |  |                                     |   |             |              |                                     |

## FAULT CATEGORY

|  |   |   |
|--|---|---|
| <b>Landing Gear</b><br><input type="checkbox"/> Bending<br><input type="checkbox"/> Centre Not Concentric to O/S<br><input type="checkbox"/> Cracks<br><input type="checkbox"/> Crushed/Crimped.<br><input type="checkbox"/> Cuffs<br><input type="checkbox"/> Heat Treat<br><input type="checkbox"/> Inspection Strip in Tube<br><input type="checkbox"/> Ripples in Bend<br><input type="checkbox"/> Torque Waves in Extrusion<br><input type="checkbox"/> Turning Sequence<br><input type="checkbox"/> Wave/Twist in Tube | <b>General</b><br><input type="checkbox"/> Bend<br><input type="checkbox"/> BOM/Route<br><input type="checkbox"/> Broken/Damaged<br><input type="checkbox"/> Burrs<br><input type="checkbox"/> Contamination<br><input type="checkbox"/> Countersink<br><input type="checkbox"/> Cut Too Short<br><input type="checkbox"/> Drill Holes<br><input type="checkbox"/> Drawing<br><input type="checkbox"/> Finish<br><input type="checkbox"/> Folio | <input type="checkbox"/> Grain<br><input type="checkbox"/> Hardware<br><input type="checkbox"/> Inspection Incomplete<br><input type="checkbox"/> Instructions Incomplete/Unclear<br><input type="checkbox"/> Maintenance<br><input type="checkbox"/> Mislabeled<br><input type="checkbox"/> Misread<br><input type="checkbox"/> Offset<br><input type="checkbox"/> Out of Calibration<br><input type="checkbox"/> Out of Sequence<br><input type="checkbox"/> Outside Dimensions |
|--|---|---|

☐ Ovalized  
☐ Over/Under tolerance  
☐ Part Incorrect  
☐ Part Lost/Missing  
☐ Part Moved  
☐ Positioned Wrong  
☐ Power Loss/Surge

☐ Pressure/Forced  
☐ Temperature/Cure  
☐ Weld  
☐ Wrong Stock Pulled  
☒ Other

Water Jet marks across part with Pressure in the line also missed at inspection

# Work Order ID 93417

\*93417\*

Page 2

November-19-12 10:05:52 AM

Item ID: D3535-11

Accept

\*N900040100\*

Setup Start \*NS1\*

Revision ID:

Stop \*NS2\*

Item Name: Wearshoe

Start Date: 11/15/12 Start Qty: 6.00 \*6\*

Cust Item ID:

Required Date: 11/30/12 Req'd Qty: 6.00 \*6\*

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start \*NR1\*

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop \*NR2\*

| Sequence ID/<br>Work Center ID | Operation<br>Description  | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|---|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
| 130                            |   | 0.00                 |         |        |              |               |               |                  |                |
| <b>*130*</b>                   | NC BRAKE  |                      |         |        |              | 9x            |               |                  | 12/12/07       |
| Brake NC                       | Memo  | 0.00                 |         |        |              |               |               |                  | 12/12/07       |
| Brake NC                       | 1-Form on Brake as per Dwg D3535 using Jigs DT8261 and DT83262-Form joggle as per Dwg D3535 using Jig DT8158 Identify as D3535-11 |                      |         |        |              |               |               |                  |                |
| 140                            |   | 0.00                 |         |        |              | 9             |               |                  |                |
| <b>*140*</b>                   | QC5- Inspect part completeness to step on W/O   | 0.00                 |         |        |              |               |               |                  |                |
| QC                             | Memo  | 0.00                 |         |        |              |               |               |                  |                |
| Quality Control                |   |                      |         |        |              |               |               |                  |                |
| 150                            |   | 0.00                 |         |        |              |               |               |                  |                |
| <b>*150*</b>                   | Grey Sandtex(Ref:4.3.5.6) per QSI005 4.3  | 0.00                 |         |        |              |               |               |                  |                |
| Powdercoat                     | Memo  | 0.00                 |         |        |              |               |               |                  |                |
| Powder Coating                 | START TIME: 11:00 OVEN TEMPERATURE: 11:30   |                      |         |        |              | 9x            |               |                  | 12/12/11       |
|                                | FINISH TIME: 11:30  |                      |         |        |              |               |               |                  |                |

m122966

3200 F

11:30

NCR: ☒ Yes / No

## WORK ORDER NON-CONFORMANCE / UPDATE

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

|  |  |   |  |  |  |  |
|--|--|---|--|--|--|--|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____   | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input checked="" type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Work Order Update <input type="checkbox"/> | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Thermoforming <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </td> <td style="width: 33%;">           Crosstube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/><br/>           Composite <input type="checkbox"/> </td> <td style="width: 33%;">           Water Jet <input checked="" type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/><br/>           Supplier <input type="checkbox"/> </td> <td style="width: 33%;">           Engineering <input type="checkbox"/><br/>           Quality <input type="checkbox"/><br/>           Other <input type="checkbox"/> </td> </tr> </table> | Skid-tube <input type="checkbox"/><br>Machining <input type="checkbox"/><br>Thermoforming <input type="checkbox"/><br>Large Fab <input type="checkbox"/> | Crosstube <input type="checkbox"/><br>Small Fab <input type="checkbox"/><br>Finishing <input type="checkbox"/><br>Composite <input type="checkbox"/> | Water Jet <input checked="" type="checkbox"/><br>Prod. Eng. Coord. <input type="checkbox"/><br>Rec/Store/Packaging <input type="checkbox"/><br>Supplier <input type="checkbox"/> | Engineering <input type="checkbox"/><br>Quality <input type="checkbox"/><br>Other <input type="checkbox"/> |
| Skid-tube <input type="checkbox"/><br>Machining <input type="checkbox"/><br>Thermoforming <input type="checkbox"/><br>Large Fab <input type="checkbox"/> | Crosstube <input type="checkbox"/><br>Small Fab <input type="checkbox"/><br>Finishing <input type="checkbox"/><br>Composite <input type="checkbox"/>                                       | Water Jet <input checked="" type="checkbox"/><br>Prod. Eng. Coord. <input type="checkbox"/><br>Rec/Store/Packaging <input type="checkbox"/><br>Supplier <input type="checkbox"/>  | Engineering <input type="checkbox"/><br>Quality <input type="checkbox"/><br>Other <input type="checkbox"/>   |  |  |  |

| Root Cause                                   | Date | Step | Qty | Description of work order update or Non-conformance | Initial Chief Eng | Action Description | Sign & Date | Verification | QC Inspector |
|--|------|------|-----|---|-------------------|--------------------|-------------|--------------|--------------|
| Doc/Data                                     |      |      |     |   |                   |                    |             |              |              |
| Equip/Tooling                                |      |      |     |   |                   |                    |             |              |              |
| Operator <input checked="" type="checkbox"/> |      |      |     |   |                   |                    |             |              |              |
| Material                                     |      |      |     |   |                   |                    |             |              |              |
| Setup  |      |      |     |   |                   |                    |             |              |              |
| Other  |      |      |     |   |                   |                    |             |              |              |
| Process                                      |      |      |     |   |                   |                    |             |              |              |
| Supplier                                     |      |      |     |   |                   |                    |             |              |              |
| Training                                     |      |      |     |   |                   |                    |             |              |              |
| Unapproved                                   |      |      |     |   |                   |                    |             |              |              |

### FAULT CATEGORY

| Landing Gear  | General                                 | Other  |
|---|---|--|
| <input type="checkbox"/> Bending                      | <input type="checkbox"/> Bend           | <input type="checkbox"/> Grain                           |
| <input type="checkbox"/> Centre Not Concentric to O/S | <input type="checkbox"/> BOM/Route      | <input type="checkbox"/> Hardware                        |
| <input type="checkbox"/> Cracks                       | <input type="checkbox"/> Broken/Damaged | <input type="checkbox"/> Inspection Incomplete           |
| <input type="checkbox"/> Crushed/Crimped              | <input type="checkbox"/> Burrs          | <input type="checkbox"/> Instructions Incomplete/Unclear |
| <input type="checkbox"/> Cuffs                        | <input type="checkbox"/> Contamination  | <input type="checkbox"/> Maintenance                     |
| <input type="checkbox"/> Heat Treat                   | <input type="checkbox"/> Countersink    | <input type="checkbox"/> Mislabeled                      |
| <input type="checkbox"/> Inspection Strip in Tube     | <input type="checkbox"/> Cut Too Short  | <input type="checkbox"/> Misread                         |
| <input type="checkbox"/> Ripples in Bend              | <input type="checkbox"/> Drill Holes    | <input type="checkbox"/> Offset                          |
| <input type="checkbox"/> Torque Waves in Extrusion    | <input type="checkbox"/> Drawing        | <input type="checkbox"/> Out of Calibration              |
| <input type="checkbox"/> Turning Sequence             | <input type="checkbox"/> Finish         | <input type="checkbox"/> Out of Sequence                 |
| <input type="checkbox"/> Wave/Twist in Tube           | <input type="checkbox"/> Folio          | <input type="checkbox"/> Outside Dimensions              |
|   |   | <input type="checkbox"/> Ovalized                        |
|   |   | <input type="checkbox"/> Over/Under tolerance            |
|   |   | <input type="checkbox"/> Part Incorrect                  |
|   |   | <input type="checkbox"/> Part Lost/Missing               |
|   |   | <input type="checkbox"/> Part Moved                      |
|   |   | <input type="checkbox"/> Positioned Wrong                |
|   |   | <input type="checkbox"/> Power Loss/Surge                |
|   |   | <input type="checkbox"/> Pressure/Forced                 |
|   |   | <input type="checkbox"/> Temperature/Cure                |
|   |   | <input type="checkbox"/> Weld                            |
|   |   | <input type="checkbox"/> Wrong Stock Pulled              |
|   |   | <input type="checkbox"/> Other                           |

**\*93417\***

November-19-12 10:05:52 AM

**Accept**

**\*N900040100\***

Setup Start \*NS1\*

Stop \*NS2\*

**Start Date:** 11/15/12      **Start Qty:** 6.00

**\*6\***

**Cust Item ID:****Required Date: 11/30/12      Req'd Qty: 6.00**

\*6\*

**Customer:**

**Reference:**

Run Start \*NR1\*

**Approvals:** \_\_\_\_\_ **Process Plan:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **Tooling:** \_\_\_\_\_ **Date:** \_\_\_\_\_

Stop \*NR2\*

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

## Operation Description

## Set Up/ Run Hours

| Tool ID | Tool # | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|---------|--------|-----------|------------|------------|---------------|-------------|
|---------|--------|-----------|------------|------------|---------------|-------------|

160

QC3- Inspect Part Finish

0.00

**\*160\***

0.00

QC

## Memo

### Quality Control

170

Identify as per dwg & Stock Location: 51 0.00

0.00

\*170\*

0.00

### Packaging

## Memo

## Packaging

180

|   |      |
|---|------|
| QC21- Final Inspection - Work Order Release | 0.00 |
|---|------|

0.00

**\*180\***

0.00

OC

## Memo

### Quality Control

NCR: Yes / No

**WORK ORDER NON-CONFORMANCE / UPDATE**

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

|  |   |   |                                      |                                    |                                    |                                      |                                    |                                    |  |                                  |  |                                    |  |                                |                                    |                                    |                                   |  |
|--|---|---|--------------------------------------|------------------------------------|------------------------------------|--------------------------------------|------------------------------------|------------------------------------|--|----------------------------------|--|------------------------------------|--|--------------------------------|------------------------------------|------------------------------------|-----------------------------------|--|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____ | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Work Order Update <input type="checkbox"/> | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table> | Skid-tube <input type="checkbox"/>   | Crosstube <input type="checkbox"/> | Water Jet <input type="checkbox"/> | Engineering <input type="checkbox"/> | Machining <input type="checkbox"/> | Small Fab <input type="checkbox"/> | Prod. Eng. Coord. <input type="checkbox"/> | Quality <input type="checkbox"/> | Thermoforming <input type="checkbox"/> | Finishing <input type="checkbox"/> | Rec/Store/Packaging <input type="checkbox"/> | Other <input type="checkbox"/> | Large Fab <input type="checkbox"/> | Composite <input type="checkbox"/> | Supplier <input type="checkbox"/> |  |
| Skid-tube <input type="checkbox"/>                           | Crosstube <input type="checkbox"/>  | Water Jet <input type="checkbox"/>  | Engineering <input type="checkbox"/> |                                    |                                    |                                      |                                    |                                    |  |                                  |  |                                    |  |                                |                                    |                                    |                                   |  |
| Machining <input type="checkbox"/>                           | Small Fab <input type="checkbox"/>  | Prod. Eng. Coord. <input type="checkbox"/>  | Quality <input type="checkbox"/>     |                                    |                                    |                                      |                                    |                                    |  |                                  |  |                                    |  |                                |                                    |                                    |                                   |  |
| Thermoforming <input type="checkbox"/>                       | Finishing <input type="checkbox"/>  | Rec/Store/Packaging <input type="checkbox"/>  | Other <input type="checkbox"/>       |                                    |                                    |                                      |                                    |                                    |  |                                  |  |                                    |  |                                |                                    |                                    |                                   |  |
| Large Fab <input type="checkbox"/>                           | Composite <input type="checkbox"/>  | Supplier <input type="checkbox"/>   |                                      |                                    |                                    |                                      |                                    |                                    |  |                                  |  |                                    |  |                                |                                    |                                    |                                   |  |

| Root Cause    | Date | Step | Qty | Description of work order update or Non-conformance | Initial Chief Eng | Action Description | Sign & Date | Verification | QC Inspector |
|---------------|------|------|-----|---|-------------------|--------------------|-------------|--------------|--------------|
| Doc/Data      |      |      |     |   |                   |                    |             |              |              |
| Equip/Tooling |      |      |     |   |                   |                    |             |              |              |
| Operator      |      |      |     |   |                   |                    |             |              |              |
| Material      |      |      |     |   |                   |                    |             |              |              |
| Setup         |      |      |     |   |                   |                    |             |              |              |
| Other         |      |      |     |   |                   |                    |             |              |              |
| Process       |      |      |     |   |                   |                    |             |              |              |
| Supplier      |      |      |     |   |                   |                    |             |              |              |
| Training      |      |      |     |   |                   |                    |             |              |              |
| Unapproved    |      |      |     |   |                   |                    |             |              |              |

**FAULT CATEGORY**

|  |   |   |
|--|---|---|
| <b>Landing Gear</b><br><input type="checkbox"/> Bending<br><input type="checkbox"/> Centre Not Concentric to O/S<br><input type="checkbox"/> Cracks<br><input type="checkbox"/> Crushed/Crimped.<br><input type="checkbox"/> Cuffs<br><input type="checkbox"/> Heat Treat<br><input type="checkbox"/> Inspection Strip in Tube<br><input type="checkbox"/> Ripples in Bend<br><input type="checkbox"/> Torque Waves in Extrusion<br><input type="checkbox"/> Turning Sequence<br><input type="checkbox"/> Wave/Twist in Tube | <b>General</b><br><input type="checkbox"/> Bend<br><input type="checkbox"/> BOM/Route<br><input type="checkbox"/> Broken/Damaged<br><input type="checkbox"/> Burrs<br><input type="checkbox"/> Contamination<br><input type="checkbox"/> Countersink<br><input type="checkbox"/> Cut Too Short<br><input type="checkbox"/> Drill Holes<br><input type="checkbox"/> Drawing<br><input type="checkbox"/> Finish<br><input type="checkbox"/> Folio | <input type="checkbox"/> Grain<br><input type="checkbox"/> Hardware<br><input type="checkbox"/> Inspection Incomplete<br><input type="checkbox"/> Instructions Incomplete/Unclear<br><input type="checkbox"/> Maintenance<br><input type="checkbox"/> Mislabeled<br><input type="checkbox"/> Misread<br><input type="checkbox"/> Offset<br><input type="checkbox"/> Out of Calibration<br><input type="checkbox"/> Out of Sequence<br><input type="checkbox"/> Outside Dimensions |
|  |   | <input type="checkbox"/> Ovalized<br><input type="checkbox"/> Over/Under tolerance<br><input type="checkbox"/> Part Incorrect<br><input type="checkbox"/> Part Lost/Missing<br><input type="checkbox"/> Part Moved<br><input type="checkbox"/> Positioned Wrong<br><input type="checkbox"/> Power Loss/Surge  |
|  |   | <input type="checkbox"/> Pressure/Forced<br><input type="checkbox"/> Temperature/Cure<br><input type="checkbox"/> Weld<br><input type="checkbox"/> Wrong Stock Pulled<br><input type="checkbox"/> Other   |

# Picklist Print

November-19-12 10:05:52 AM

Page 1

Work Order ID: 93417  
Parent Item: D3535-11  
Parent Item Name: Wearshoe

Start Date: 11/15/12 Required Date: 11/30/12  
Start Qty: 6.00 Required Qty: 6.00

Comments: IPP Rev:A New Issue 07-02-15 JLM  
IPP Rev:B As per Rev B 07-08-31 JLM Verified By:EC

| Component Item ID/<br>Item Name | Replacement<br>Item ID | Mfg/<br>Purch | Bin<br>Item | Primary<br>Location | Last<br>Location | Route<br>Seq ID | Unit of<br>Measure | Qty on<br>Hand | Qty per Kit | Total<br>Qty | Qty<br>Issued | Date<br>Issued | Status |
|---------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|-------------|--------------|---------------|----------------|--------|
| M304S20GA<br>304/316 .040 Sheet |                        | Purchased     | No          |                     |                  | 100             | sf                 | 121.8500       | 0.7015      | 4.4305266    |               | 11-21-12       |        |

Location

Loc Qty

Loc Code

MAT020

121.8500325

121380

0.0000325

122732

16.5

122753

105.35

122753

118

NCR: Yes / No

**WORK ORDER NON-CONFORMANCE / UPDATE**

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

|  |   |   |                                      |                                    |                                    |                                      |                                    |                                    |  |                                  |  |                                    |  |                                |                                    |                                    |                                   |  |
|--|---|---|--------------------------------------|------------------------------------|------------------------------------|--------------------------------------|------------------------------------|------------------------------------|--|----------------------------------|--|------------------------------------|--|--------------------------------|------------------------------------|------------------------------------|-----------------------------------|--|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____ | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Work Order Update <input type="checkbox"/> | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table> | Skid-tube <input type="checkbox"/>   | Crosstube <input type="checkbox"/> | Water Jet <input type="checkbox"/> | Engineering <input type="checkbox"/> | Machining <input type="checkbox"/> | Small Fab <input type="checkbox"/> | Prod. Eng. Coord. <input type="checkbox"/> | Quality <input type="checkbox"/> | Thermoforming <input type="checkbox"/> | Finishing <input type="checkbox"/> | Rec/Store/Packaging <input type="checkbox"/> | Other <input type="checkbox"/> | Large Fab <input type="checkbox"/> | Composite <input type="checkbox"/> | Supplier <input type="checkbox"/> |  |
| Skid-tube <input type="checkbox"/>                           | Crosstube <input type="checkbox"/>  | Water Jet <input type="checkbox"/>  | Engineering <input type="checkbox"/> |                                    |                                    |                                      |                                    |                                    |  |                                  |  |                                    |  |                                |                                    |                                    |                                   |  |
| Machining <input type="checkbox"/>                           | Small Fab <input type="checkbox"/>  | Prod. Eng. Coord. <input type="checkbox"/>  | Quality <input type="checkbox"/>     |                                    |                                    |                                      |                                    |                                    |  |                                  |  |                                    |  |                                |                                    |                                    |                                   |  |
| Thermoforming <input type="checkbox"/>                       | Finishing <input type="checkbox"/>  | Rec/Store/Packaging <input type="checkbox"/>  | Other <input type="checkbox"/>       |                                    |                                    |                                      |                                    |                                    |  |                                  |  |                                    |  |                                |                                    |                                    |                                   |  |
| Large Fab <input type="checkbox"/>                           | Composite <input type="checkbox"/>  | Supplier <input type="checkbox"/>   |                                      |                                    |                                    |                                      |                                    |                                    |  |                                  |  |                                    |  |                                |                                    |                                    |                                   |  |

| Root Cause    | Date | Step | Qty | Description of work order update or Non-conformance | Initial Chief Eng | Action Description | Sign & Date | Verification | QC Inspector |
|---------------|------|------|-----|---|-------------------|--------------------|-------------|--------------|--------------|
| Doc/Data      |      |      |     |   |                   |                    |             |              |              |
| Equip/Tooling |      |      |     |   |                   |                    |             |              |              |
| Operator      |      |      |     |   |                   |                    |             |              |              |
| Material      |      |      |     |   |                   |                    |             |              |              |
| Setup         |      |      |     |   |                   |                    |             |              |              |
| Other         |      |      |     |   |                   |                    |             |              |              |
| Process       |      |      |     |   |                   |                    |             |              |              |
| Supplier      |      |      |     |   |                   |                    |             |              |              |
| Training      |      |      |     |   |                   |                    |             |              |              |
| Unapproved    |      |      |     |   |                   |                    |             |              |              |

**FAULT CATEGORY**

| Landing Gear  | General                                 | Other  |
|---|---|--|
| <input type="checkbox"/> Bending                      | <input type="checkbox"/> Bend           | <input type="checkbox"/> Grain                           |
| <input type="checkbox"/> Centre Not Concentric to O/S | <input type="checkbox"/> BOM/Route      | <input type="checkbox"/> Hardware                        |
| <input type="checkbox"/> Cracks                       | <input type="checkbox"/> Broken/Damaged | <input type="checkbox"/> Inspection Incomplete           |
| <input type="checkbox"/> Crushed/Crimped              | <input type="checkbox"/> Burrs          | <input type="checkbox"/> Instructions Incomplete/Unclear |
| <input type="checkbox"/> Cuffs                        | <input type="checkbox"/> Contamination  | <input type="checkbox"/> Maintenance                     |
| <input type="checkbox"/> Heat Treat                   | <input type="checkbox"/> Countersink    | <input type="checkbox"/> Mislabeled                      |
| <input type="checkbox"/> Inspection Strip in Tube     | <input type="checkbox"/> Cut Too Short  | <input type="checkbox"/> Misread                         |
| <input type="checkbox"/> Ripples in Bend              | <input type="checkbox"/> Drill Holes    | <input type="checkbox"/> Offset                          |
| <input type="checkbox"/> Torque Waves in Extrusion    | <input type="checkbox"/> Drawing        | <input type="checkbox"/> Out of Calibration              |
| <input type="checkbox"/> Turning Sequence             | <input type="checkbox"/> Finish         | <input type="checkbox"/> Out of Sequence                 |
| <input type="checkbox"/> Wave/Twist in Tube           | <input type="checkbox"/> Folio          | <input type="checkbox"/> Outside Dimensions              |
|   |   | <input type="checkbox"/> Ovalized                        |
|   |   | <input type="checkbox"/> Over/Under tolerance            |
|   |   | <input type="checkbox"/> Part Incorrect                  |
|   |   | <input type="checkbox"/> Part Lost/Missing               |
|   |   | <input type="checkbox"/> Part Moved                      |
|   |   | <input type="checkbox"/> Positioned Wrong                |
|   |   | <input type="checkbox"/> Power Loss/Surge                |
|   |   | <input type="checkbox"/> Pressure/Forced                 |
|   |   | <input type="checkbox"/> Temperature/Cure                |
|   |   | <input type="checkbox"/> Weld                            |
|   |   | <input type="checkbox"/> Wrong Stock Pulled              |
|   |   | <input type="checkbox"/> Other                           |



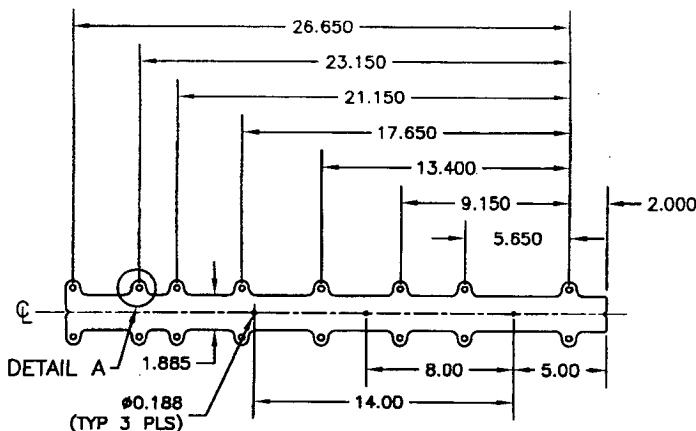
**DART**

RELEASED

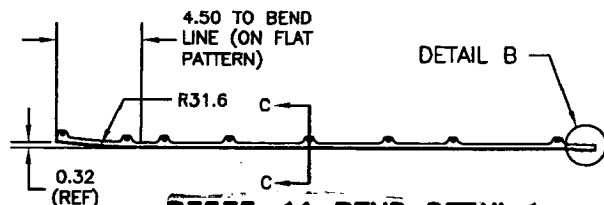
070424

UNCONTROLLED  
RETRACTED FROM FILE  
WITH

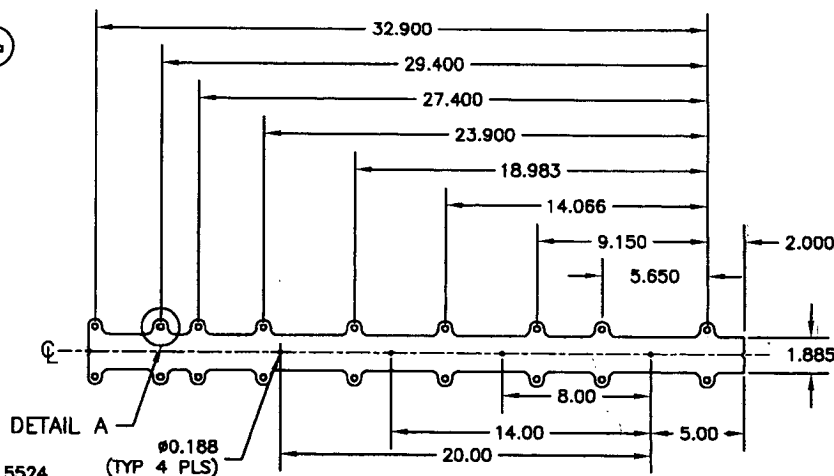
93417 MLJ  
12-11-20



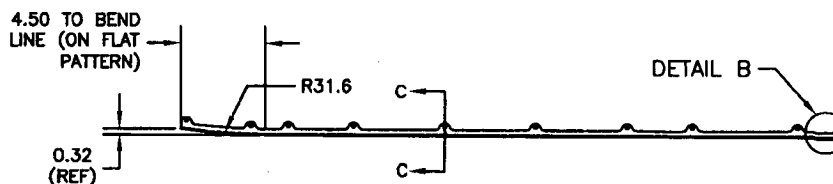
**D3535-11F FLAT PATTERN**



**D3535-11 BEND DETAIL**



**D3535-13F FLAT PATTERN**



**D3535-13 BEND DETAIL**

**NOTES**

- 1) MATERIAL: AISI 304/316 SS SHEET PER AMS 5513 OR AMS 5524, 20 GAUGE (0.038 THICK) (REF DART SPEC M304S20GA)
- 2) FINISH: POWDER COAT GREY SANDTEX (4.3.5.6) PER QSI 005 4.3
- 3) PART IS SYMMETRICAL ABOUT C
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES
- 6) BREAK ALL SHARP EDGES TO 0.010 MAX
- 7) IDENTIFY WITH DART P/N USING WHITE FINE POINT PAINT MARKER
- 8) SEE PAGE 7 FOR DETAILS AND SECTION

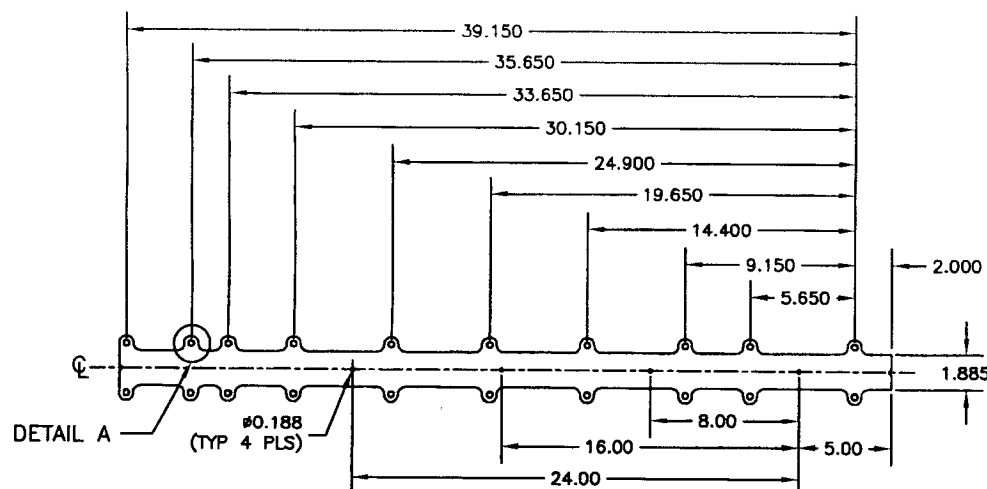
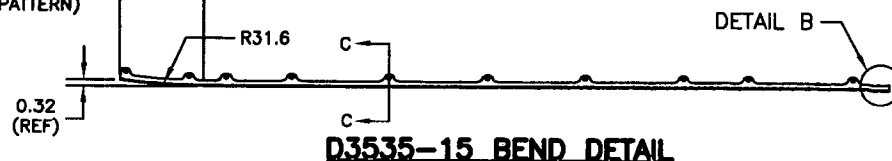
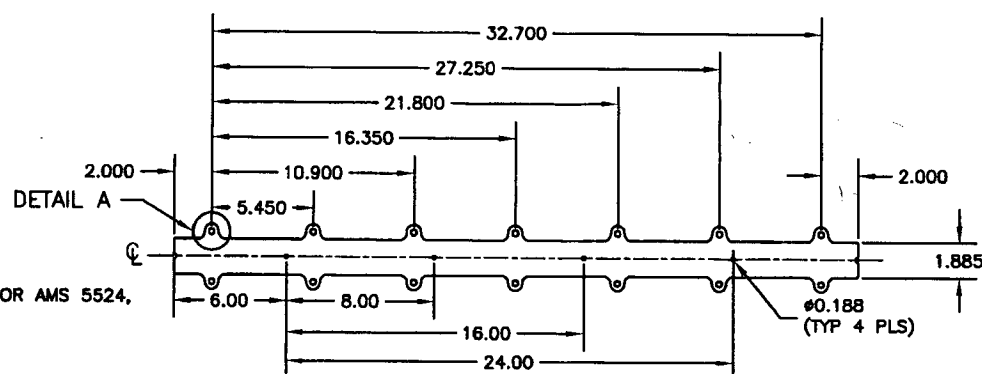
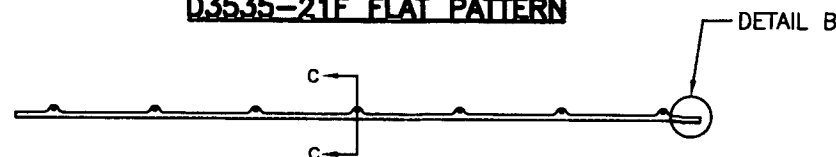
| DESIGN   | DRAWN BY | DART AEROSPACE USA, INC.        |
|----------|----------|---------------------------------|
| CB       | PH       | PORT HADLOCK, WA                |
| CHECKED  | APPROVED | DRAWING NO.                     |
|          |          | D3535                           |
| DATE     | TITLE    | REV. B                          |
| 07.04.17 | WEARSHOE | SHEET 1 OF 7                    |
| A        | 06.10.25 | NEW ISSUE                       |
| B        | 07.04.17 | MOVE TAB OUTBOARD, ADD AMS SPEC |
|          |          | SCALE 1:10                      |

93472



RELEASED

07.04.24

4.50 TO BEND  
LINE (ON FLAT  
PATTERN)**D3535-15F FLAT PATTERN****D3535-15 BEND DETAIL****D3535-21F FLAT PATTERN****D3535-21 BEND DETAIL****NOTES**

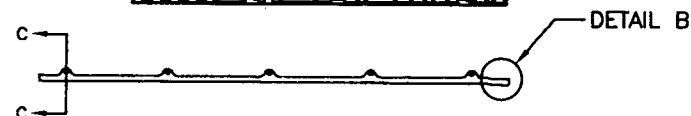
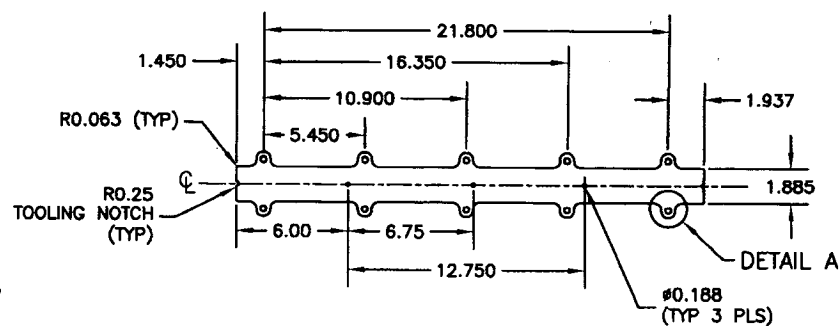
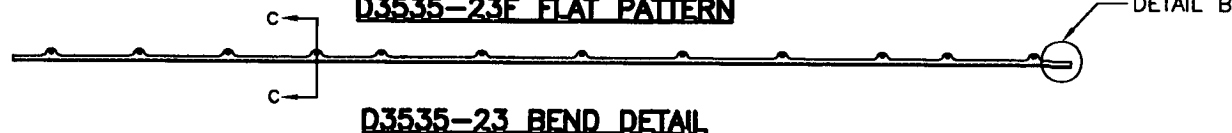
- 1) MATERIAL: AISI 304/316 SS SHEET PER AMS 5513 OR AMS 5524, 20 GAUGE (0.038 THICK) (REF DART SPEC M304S20GA)
- 2) FINISH: POWDER COAT GREY SANDTEX (4.3.5.6) PER QSI 005 4.3
- 3) PART IS SYMMETRICAL ABOUT  $\phi$
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES
- 6) BREAK ALL SHARP EDGES TO 0.010 MAX
- 7) IDENTIFY WITH DART P/N USING WHITE FINE POINT PAINT MARKER
- 8) SEE PAGE 7 FOR DETAILS AND SECTION

| DESIGN   | DRAWN BY | DART AEROSPACE USA, INC. |        |
|----------|----------|--------------------------|--------|
| C.B.     | PH       | PORT HADLOCK, WA         |        |
| CHECKED  | APPROVED | DRAWING NO.              | REV. B |
|          |          | D3535                    |        |
| DATE     | TITLE    | SHEET 2 OF 7             |        |
| 07.04.17 | WEARSHOE | SCALE 1:10               |        |

**DART**

ST. LOUIS

07-04-24



## NOTES

- 1) MATERIAL: AISI 304/316 SS SHEET PER AMS 5513 OR AMS 5524,  
20 GAUGE (0.038 THICK)  
(REF DART SPEC M304S20GA)
- 2) FINISH: POWDER COAT GREY SANDTEX (4.3.5.6) PER  
QSI 005 4.3
- 3) PART IS SYMMETRICAL ABOUT C
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS  
OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES
- 6) BREAK ALL SHARP EDGES TO 0.010 MAX
- 7) IDENTIFY WITH DART P/N USING WHITE FINE POINT  
PAINT MARKER
- 8) SEE PAGE 7 FOR DETAILS AND SECTION

**Copyright © 2006 by DART AEROSPACE USA, INC.**

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.

Copyright © 2006 by DART AEROSPACE USA, INC.

## DESIGN

25

DRAWN BY

43

**DART AEROSPACE USA, INC.**  
PORT HADLOCK, WA

PORT HADLOCK, WA

DRAWING NO. D3EZE

0333

REV. B  
SHEET 3 OF 7

DATE \_\_\_\_\_

07.04.17

WEARSHOE

**SCALE**

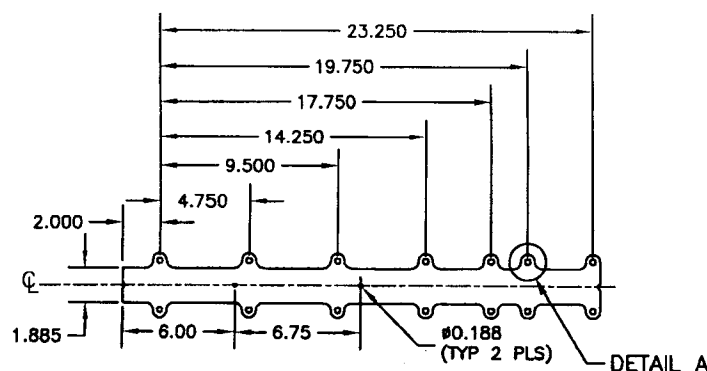
**1:10**



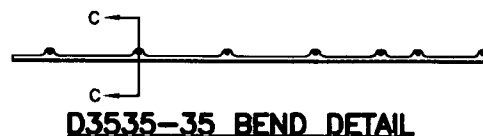
93417



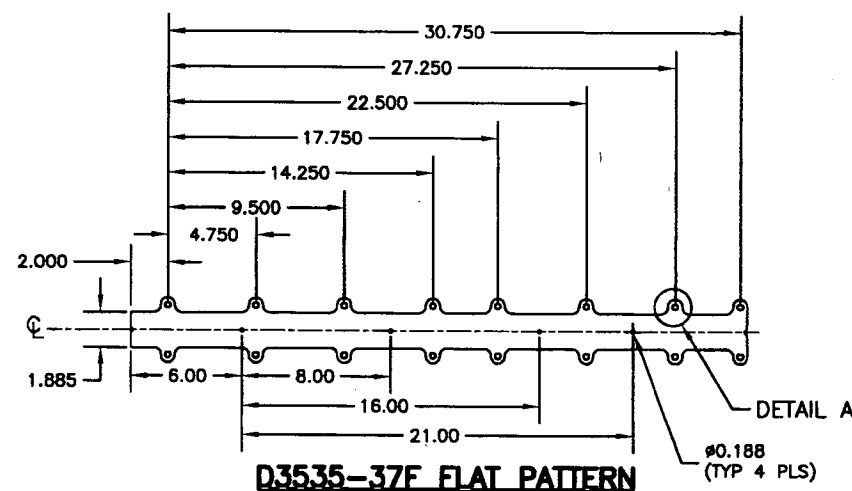
RELEASED  
07.04.17



**D3535-35F FLAT PATTERN**



**D3535-35 BEND DETAIL**



**D3535-37F FLAT PATTERN**



**D3535-37 BEND DETAIL**

**NOTES**

- 1) MATERIAL: AISI 304/316 SS SHEET PER AMS 5513 OR AMS 5524, 20 GAUGE (0.038 THICK)  
(REF DART SPEC M304S20GA)
- 2) FINISH: POWDER COAT GREY SANDTEX (4.3.5.6) PER QSI 005 4.3
- 3) PART IS SYMMETRICAL ABOUT C
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES
- 6) BREAK ALL SHARP EDGES TO 0.010 MAX
- 7) IDENTIFY WITH DART P/N USING WHITE FINE POINT PAINT MARKER
- 8) SEE PAGE 7 FOR DETAILS AND SECTION

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.

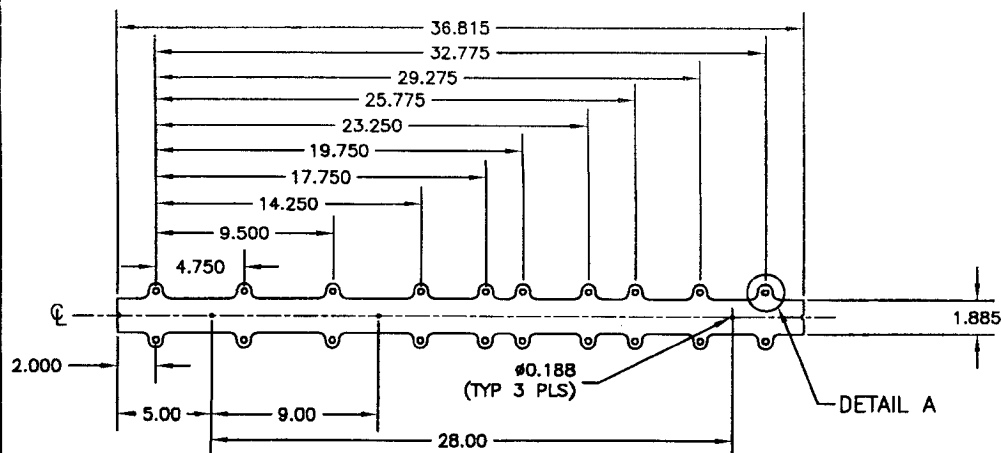
Copyright © 2006 by DART AEROSPACE USA, INC.

|         |          |          |          |                          |
|---------|----------|----------|----------|--------------------------|
| DESIGN  | CB       | DRAWN BY | CH       | DART AEROSPACE USA, INC. |
| CHECKED |          | APPROVED |          | PORT HADLOCK, WA         |
| DATE    | 07.04.17 | TITLE    | D3535    | REV. B                   |
|         |          |          | WEARSHOE | SHEET 5 OF 7             |
|         |          |          |          | SCALE 1:10               |

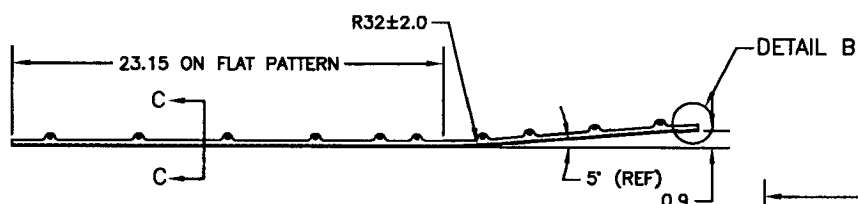
93418



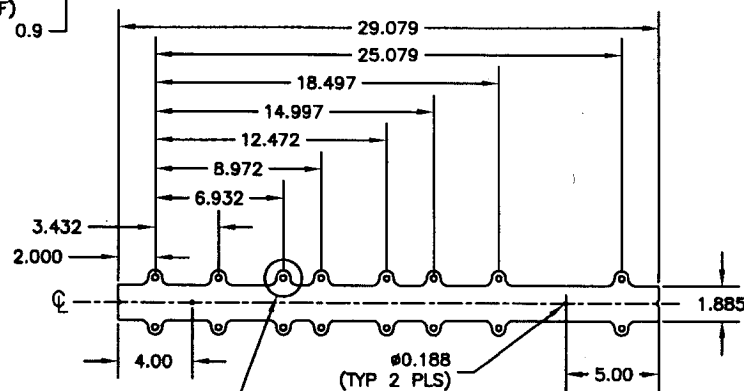
RELEASED  
07.04.24



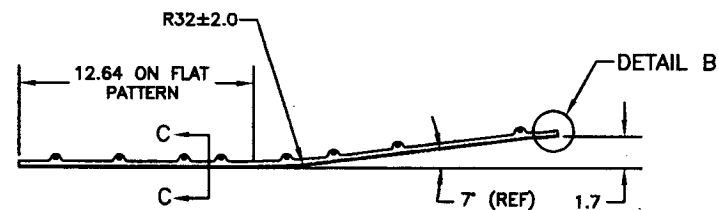
D3535-39F FLAT PATTERN



D3535-39 BEND DETAIL



D3535-41F FLAT PATTERN



D3535-41 BEND DETAIL

**NOTES**

- 1) MATERIAL: AISI 304/316 SS SHEET PER AMS 5513 OR AMS 5524, 20 GAUGE (0.038 THICK) (REF DART SPEC M304S20GA)
- 2) FINISH: POWDER COAT GREY SANDTEX (4.3.5.6) PER QSI 005 4.3
- 3) PART IS SYMMETRICAL ABOUT  $\phi$
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES
- 6) BREAK ALL SHARP EDGES TO 0.010 MAX
- 7) IDENTIFY WITH DART P/N USING WHITE FINE POINT PAINT MARKER
- 8) SEE PAGE 7 FOR DETAILS AND SECTION

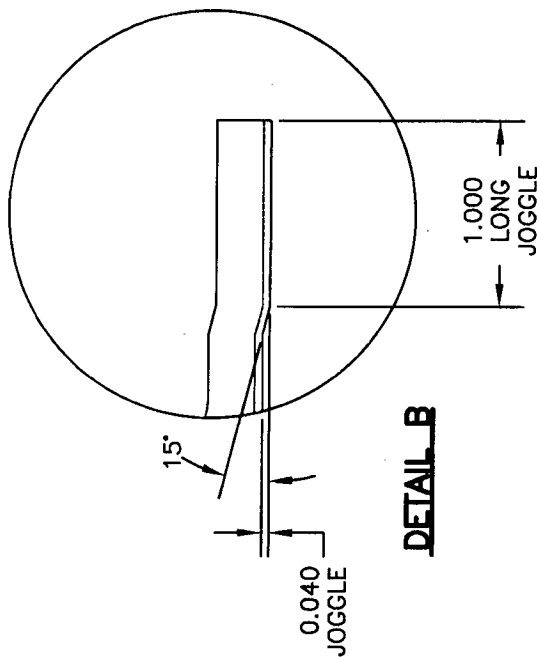
|         |          |          |       |                          |
|---------|----------|----------|-------|--------------------------|
| DESIGN  | C.B.     | DRAWN BY | PH    | DART AEROSPACE USA, INC. |
| CHECKED |          | APPROVED |       | PORT HADLOCK, WA         |
| DATE    | 07.04.17 | TITLE    | D3535 | WEARSHOE                 |
|         |          | SCALE    | 1:10  | REV. B                   |
|         |          |          |       | SHEET 6 OF 7             |

93412

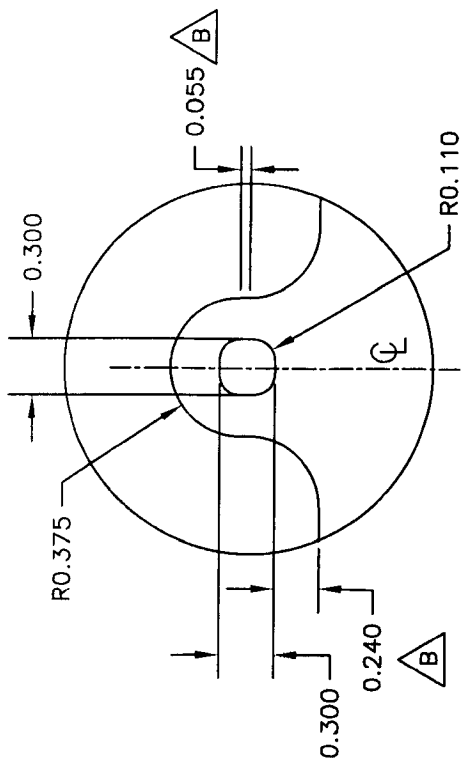


|                     |                       |  |                        |
|---------------------|-----------------------|--|------------------------|
| DESIGN<br><b>CB</b> | DRAWN BY<br><b>PH</b> | DART AEROSPACE USA, INC.<br>PORT HADLOCK, WA |                        |
| CHECKED<br>         | APPROVED<br>          | DRAWING NO.<br>D3535                         | REV. B<br>SHEET 7 OF 7 |
| DATE<br>07.04.17    |                       | TITLE<br>WEARSHOE                            | SCALE<br>1:1           |

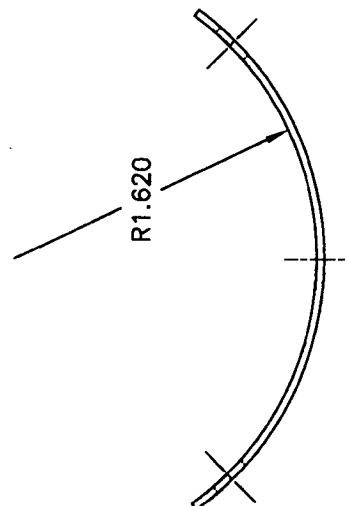
RELEASED  
07.04.24



**DETAIL B**



**DETAIL A**



**SECTION C-C**

Copyright © 2006 by DART AEROSPACE USA, INC.

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.

93412

|                       |        |                              |
|-----------------------|--------|------------------------------|
| DART AEROSPACE LTD    |        | Work Order: <del>93512</del> |
| Description: Wearshoe |        | Part Number: D3535-11        |
| Inspection Dwg: D3535 | Rev: B | Page 1 of 1                  |

### FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article
 ☐ Prototype

| Drawing Dimension | Tolerance     | Actual Dimension | Accept | Reject | Method of Inspection | Comments |
|-------------------|---------------|------------------|--------|--------|----------------------|----------|
| 5.00              | +/-0.010      | 5.00             | L      |        | T IB01               |          |
| 8.00              | +/-0.010      | 8.00             | ✓      |        | T                    |          |
| 14.00             | +/-0.010      | 14.00            | ✓      |        | T                    |          |
| 21.150            | +/-0.010      | 21.150           | ✓      |        | T                    |          |
| 26.650            | +/-0.010      | 26.650           | ✓      |        | T                    |          |
| 5.650             | +/-0.010      | 5.650            | ✓      |        | T                    |          |
| Ø0.188            | +0.005/-0.001 | .189             | 2      |        | V IB02               |          |
| 0.300             | +/-0.010      | .298             | ✓      |        | V                    |          |
| 0.300             | +/-0.010      | .301             | ✓      |        | V                    |          |
| 0.038             | +/-0.010      | .036             | 2      |        | V                    |          |
|                   |               |                  |        |        |                      |          |
|                   |               |                  |        |        |                      |          |
|                   |               |                  |        |        |                      |          |
|                   |               |                  |        |        |                      |          |
|                   |               |                  |        |        |                      |          |
|                   |               |                  |        |        |                      |          |
|                   |               |                  |        |        |                      |          |
|                   |               |                  |        |        |                      |          |
|                   |               |                  |        |        |                      |          |
|                   |               |                  |        |        |                      |          |
|                   |               |                  |        |        |                      |          |
|                   |               |                  |        |        |                      |          |
|                   |               |                  |        |        |                      |          |

|                 |                 |                     |     |
|-----------------|-----------------|---------------------|-----|
| Measured by: IB | Audited by: JAG | Prototype Approval: | N/A |
| Date: 12-11-23  | Date: 12-11-23  | Date:               | N/A |

| Rev | Date     | Change    | Revised by | Approved |
|-----|----------|-----------|------------|----------|
| A   | 09.05.07 | New Issue | KJ/DD      |          |